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(1) Anti-Satellite Weapons. Program 437 was a direct-ascent weapon that made no attempt to achieve orbit, but was merely designed to intercept an object in space. The anti-satellite missiles were positioned in two launch emplacements on Johnston Island in the Pacific. ["b1"

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While Program 437 missiles were capable of intercepting objects in space, there was no means of determining, as of 1970, whether or not a satellite was hostile. Program 437, therefore, was regarded by ADC as an initial, and relatively primitive, step in the direction of a far more sophisticated satellite

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interceptor system. It was first declared operational in 1964 and by the end of FY 1969 five combat evaluation launches (CEL) of the Program 437 missile had been accomplished. Counting experimental launches not considered part of Program 437, 13 missiles had been launched by October 1969.

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) At the end of FY 1969 it was planned that the next CEL, designed to test the efficiency of the new S-band telemetry system as well as the performance of the system as a whole, would occur during the last quarter of 1969. By September of 1969, however, the S-band contractor (Vickers) had reported that faults in the design of the hydraulic system used with the 33-foot S-band antenna would force a delay of at least 90 days after the scheduled December 1969 launch date. In October 1969, however, optimism increased and a CEL date of 15 January 1970 was established. But in December 1969 pessimism returned and the 15 January CEL date was cancelled. A new date of 28 February-8 March 1970 was established.

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Meanwhile, there were hints that Program 437 might suffer some reduction in emphasis, despite the fact that it was the only operational anti-satellite weapon in existence. This situation developed in an unusual manner. In November of 1969, Deputy Secretary of Defense Packard directed the dissolution of Joint Task Force 8 (JTF-8).

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JTF-8 was

the host command at the Program 437 launch site, Johnston Island. For a while there was some indecision as to where responsibility for the island would be lodged, although ADC was sure it did not want the job. A late November 1969 USAF proposal that Pacific Air Forces (PACAF) assume the responsibility from JTF-8 in July 1970 was supported by ADC.⁸²

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It appeared that PACAF was ready to shoulder host command responsibilities, so it then became necessary to work out the terms of that assumption. Deputy Secretary Packard had presented two options at the time of his original request. One was that the new host should be ready to return Johnston Island "b1" three months after notification. The second option was "go" plus nine months. In discussing the transfer, PACAF also recommended that the Air Force personnel assume total responsibility for all Johnston Island operations, replacing the civilian contractors employed by JTF-3. In early January of 1970, however, USAF requested that PACAF consider two additional alternatives--the reduction of Program 437 to caretaker status or the total removal of Program 437 operations from Johnston Island.⁸³

The ADC reaction to the two additional USAF alternatives was negative. On 13 January 1970, General Agan pointed out to USAF that Deputy Secretary Packard had made no reference to the reduction or deletion of Program 437 and that Program 437 had been considered "b1" and that USAF had decided to continue it. Therefore, General Agan did not believe the two added USAF alternatives were germane to the discussion of the

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transfer of jurisdiction over Johnston Island and should be withdrawn from consideration. The USAF proposal was subsequently withdrawn and the programmed Fiscal Year 1974 phaseout date for Program 437 was affirmed.⁸⁴

The matter did not rest here, however, and in June 1970 the Air Staff monitor for Program 437 advised ADC that this anti-satellite system had been tentatively identified by the Department of Defense for at least a major reduction in capability, and possibly complete deletion, in the very near future, perhaps by the end of 1970. This action had not been confirmed by the end of FY 1970.⁸⁵

Whatever the fate of the original Program 437 system, planning for an Improved 437 continued. In late 1969 and early 1970, the Space and Missile Systems Office (SAMSO) of AFSC prepared an Advanced Development Plan (ADP) for such a system. |

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| The ADP presented to USAF in early

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February 1970 included launch sites at Johnston Island, Vandenberg AFB in California and Cape Kennedy in Florida. The Air Staff was not highly enthusiastic about the plan, especially since adequate funds were not likely to be available.⁸⁶

New life was breathed into this program. however, when Undersecretary of the Air Force John L. McLucas later asked Grant Hansen, Assistant Secretary of the Air Force for Research and Development, to determine the earliest, and cheapest, method of ["b1"] satellite negation. In late March of 1970 Mr. McLucas was presented with several options ranging in cost from \$20 million to \$30 million. The option favored by AFSC carried an estimated cost of \$35 million and would, hopefully, produce a demonstration launching from Vandenberg within 15 months of the notice to proceed. The proposed missile was somewhat different from that described in the earlier ADP in that it would consist of a THOR booster of the type currently used in Program 437

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By June of 1970 SAMSO planning on the new project was

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beginning to include the possibility of using ~~SAC~~ ^{SLAC} Launch Complex 10E at Vandenberg for the proposed demonstration launch. While ADC was anxious to see progress in the direction of Improved 437, it cautioned SAMSO that the proposed launch site had not been used for a live launching in 10 years and it anticipated that significant modifications would have to be made to the control blockhouse before it could be used again. ADC recommended that a preliminary launching be accomplished from the Vandenberg installation to insure proper operation of the launch equipment before the formal demonstration launching was attempted. ⁸⁷

Another proposal dealing with direct-ascent
elite interception bore the non-descriptive title of

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The seventh and eighth launches of the
COLLEGE LAUNCHER series of THOR-boosted Burner II payload

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missiles were accomplished from Vandenberg during FY 1970. ADC had assumed responsibility for this program of experimental launches on 1 April 1967. The exact nature of each Burner II payload was determined by SAMSO. The seventh Burner II event was actually scheduled for 24 June 1969, but did not occur on that date because of an intervalometer malfunction within the booster. It was successfully accomplished on 22 July 1969, however. The eighth of the ADC series blasted off successfully on 10 February 1970. It was also planned, in December 1969, to launch a sensor-type Burner II payload into polar orbit (the others had been directed into the Pacific Ocean) before the end of FY 1970, but difficulties in the assembly of the payload prevented this launching before the end of the fiscal year.⁹⁰

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little progress was evident in that direction. ADC regularly requested the development of such capability, but the only result to April 1969 was a statement from

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USAF that \$500,000 for the study,

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"might be available" in the budget for

FY 1979.⁹¹

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It was

obvious at the end of FY 1970 that operational capability, if it was ever achieved, would be far in the future.⁹²

Anti-Missile Weapons. In theory it was possible to intercept an ICBM during any of the three phases of its trajectory--boost, mid-course or terminal. The terminal phase of interception was the province of the Army, which was developing the much-debated SAFEGUARD system. Early investigations (AEC had been planning anti-missile defenses since it first became apparent that the Soviet Union was capable of building an ICBM) indicated that boost-phase defense was likely to be so expensive as to be hardly practical, whether it was feasible or not. AEC, therefore, concentrated on mid-course interception. At the end of FY 1969 there were two candidate systems for this mission.

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The SDP concept was first outlined by SAMSO in the spring of 1968 and the ADP in connection therewith specified that the first SDP test launching would take place at Johnston Island in May of 1969. But money problems intervened and this launching was not possible. The matter of funding appeared to improve in the spring of 1969 and at mid-year the initial SDP launching was scheduled for 16 December 1969. In August of 1969, however, the SDP contractor, Ling-Temco-Vought, claimed that difficulty in obtaining components from subcontractors made it necessary to request that the initial launch date be postponed. USAF agreed to the postponement and established a new launch date of March 1970. Anyway, the preceding Program 437 CEL that was to test the new S-band telemetry system had also been postponed (see above).⁹⁴

As events developed the Program 437 CEL launch did not occur until 28 March 1970 and served to further delay the first SDP event.

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It was the ADC opinion that if the

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SDP payload was not ready for the April launching there was a good chance USAF would cancel the entire SDP project.⁹⁵

The first SDP launch occurred at Johnston Island on 25 April 1970. Unfortunately, the objectives of the initial test launching were not achieved, because the premature depletion of the cryogen (refrigerant) supply did not permit the removal of the sensor cap. This occurred, it was suspected, because the THOR booster collided with the payload after the separation of the two elements. At any rate, no further SDP launches were planned pending further analysis of the results of the first attempt.⁹⁶

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No action was taken on the DRMM plan, however, while a larger study of the whole question of missile and space defense (MSD) was undertaken. A Mission Analysis of MSD was completed by USAF in the late spring of 1970 and ADC generally concurred with the findings as they applied to ADC. General McGee, on 16 June 1970, summarized the ADC impressions and requested that three near-term concepts be advocated and financed by the Air Force.

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He expressed skepticism about OSD acceptance of such a terminal defense role for the Air Force, despite the convincing case presented in the study. 98

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